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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/820,389	04/07/2004	Keith E. Barr	542262000200	8442

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EXAMINER	
REIS, TRAVIS M	

ART UNIT	PAPER NUMBER
2859	

DATE MAILED: 10/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/820,389	BARR, KEITH E.	
	Examiner	Art Unit	
	Travis M. Reis	2859	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 July 2006*.

2a)☐ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-27* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5,9-14,18-22 and 24-27* is/are rejected.

7)☒ Claim(s) *6-8,15-17 and 23* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-5, 9, 10 & 24-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Erspamer et al. (U.S. Patent 3992951) in view of Butler et al. (U.S. Patent 4912662).

With reference to claims 1-5, & 24-27 Erspamer et al. disclose an inclination measurement device and method of using comprising a annular capacitive conductive chamber containing an inner wall and an outer wall (53) and having a dielectric fluid (col. 1 lines 51-52); a plurality of electrodes (51-54) provided in the chamber, wherein at least three electrodes are partially immersed in the fluid, each of the at least three electrodes including more than one side, and more than one side of each of the at least three electrodes being partially immersed in the fluid (Figure 3); a processing module (41) configured to measure an electrical characteristic between each of the plurality of electrodes and the conductive chamber and to determine an overall angle of inclination and the direction of inclination of the chamber , and measuring the capacitive value of the at least three electrodes in two non-parallel directions.

Erspamer et al. does not disclose a display for displaying a numerical value corresponding to the overall angle of inclination and an inclination using a plurality of radial indicators of the direction of inclination.

Butler et al. disclose an inclinometer having a display (25) for displaying a numerical value corresponding to the overall angle of inclination and an inclination using a plurality of radial indicators (Figures 2B & 2C) of the direction of inclination in order to tell how much a

measured surface is inclined and in what direction. Therefore, it would have been obvious to one with ordinary skill in the art at the time of the invention was made to add the display and indicators disclosed by Butler et al. to the E_{OUT} disclosed by Erspamer et al. in order to tell how much a measured surface is inclined and in what direction.

With reference to claims 9 & 10, Erspamer et al. do not disclose a microcontrollable oscillator selectively switchable with each of the plurality of electrodes.

Butler et al. disclose the inclinometer has oscillators (82) and a microcontroller (92) & switch (88) to count the output cycles and selective couple said oscillator with said electrodes (Figure 11) in order to precisely tell the angle of inclination (col. 1 lines 44-58). Therefore, it would have been obvious to one with ordinary skill in the art at the time of the invention was made to add the oscillators, microcontroller & switch disclosed by Butler et al. to the processing unit disclosed by Erspamer et al. in order to precisely tell the angle of inclination.

3. Claims 1-4, 9-14, 18-22, & 24-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Parkin (U.S. Patent 3290786) in view of Butler et al. (U.S. Patent 4912662).

With reference to claims 1-4, 11-14, 18, 21, 22, & 24-27, Parkin disclose an inclination measurement device and method of using comprising a capacitive conductive chamber (10) containing an inner wall (17) and an outer wall and having a dielectric fluid 11); a plurality of electrodes (13-16) provided in the chamber, wherein at least three electrodes are partially immersed in the fluid, each of the at least three electrodes including more than one side, and more than one side of each of the at least three electrodes being partially immersed in the fluid (Figure 1); processing modules (25, 26)(Figure 2) configured to measure an electrical characteristic between each of the plurality of electrodes and the conductive chamber and to determine an overall angle of inclination and the direction of inclination of the chamber , and

measuring the capacitive value of the at least three electrodes of the reference surface along a first (H1) and second (H2) axis.

Parkin does not disclose a display for displaying a numerical value corresponding to the overall angle of inclination and an inclination using a plurality of radial indicators of the direction of inclination.

Butler et al. disclose an inclinometer having a display (25) for displaying a numerical value corresponding to the overall angle of inclination and an inclination using a plurality of radial indicators (Figures 2B & 2C) of the direction of inclination in order to tell how much a measured surface is inclined and in what direction. Therefore, it would have been obvious to one with ordinary skill in the art at the time of the invention was made to add the display and indicators disclosed by Butler et al. to the signal generators disclosed by Parkin in order to tell how much a measured surface is inclined and in what direction.

With reference to claims 9, 10, 19, & 20, Parkin do not disclose a microcontrollable oscillator selectively switchable with each of the plurality of electrodes.

Butler et al. disclose the inclinometer has oscillators (82) and a microcontroller (92) & switch (88) to count the output cycles and selective couple said oscillator with said electrodes (Figure 11) in order to precisely tell the angle of inclination (col. 1 lines 44-58). Therefore, it would have been obvious to one with ordinary skill in the art at the time of the invention was made to add the oscillators, microcontroller & switch disclosed by Butler et al. to the processing modules disclosed by Parkin in order to precisely tell the angle of inclination.

Allowable Subject Matter

4. Claims 6-8, 15-17, & 23 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

5. The following is a statement of reasons for the indication of allowable subject matter:

With reference to claims 6-8, the prior art of record does not disclose or clearly suggest an inclination measurement and display device comprising the three electrodes spaced approximately equidistantly from each other and the inner and outer walls, in combination with the remaining limitations in the claims.

With reference to claims 15-17, the prior art of record does not disclose or clearly suggest an inclination measurement and display device comprising an annular chamber, in combination with the remaining limitations in the claims.

With reference to claim 23, the prior art of record does not disclose or clearly suggest a method of measuring inclination comprising the steps of measuring an electrical characteristic of the fluid contained in a chamber in three non-parallel directions, in combination with the remaining limitations in the claims.

Response to Arguments

6. In response to applicant's arguments that Erspamer et al. is not capable of measuring the amount of tilt and the direction of tilt when not about the reference axis; these arguments have been fully considered but they are not persuasive since it meets the limitations of the claims when tilted about the reference axis and hence is a proper rejection, as detailed above in paragraph 2.

7. Applicant's arguments with respect to claims 1-4, 9-14, 18-22, & 24-27 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Travis M. Reis whose telephone number is (571) 272-2249. The examiner can normally be reached on 8--5 M--F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diego Gutierrez can be reached on (571) 272-2245. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Travis M Reis
Examiner
Art Unit 2859

Diego Gutierrez
Supervisory Patent Examiner
Tech Center 2800

tmr
October 16, 2006